upon temperature made during his late expedition to the polar regions, have been recently completed, and result in giving a considerably lower mean temperature than was stated by him in a previous communication to the Society.

A discussion ensued upon the imperfections of thermometers and their want of reliability when used to indicate extremes of temperature, whatever may be their form of construction, or the fluid with which their tubes are filled.

On motion of Dr. F. Bache, Dr. C. W. Short was excused from the duty of preparing an obituary notice of the late Mr. William Short.

The Society proceeded to ballot for candidates for membership,—and the ballot-boxes being afterwards opened by the presiding officer, the following named gentlemen were declared to be duly elected members of the Society:—

Theo. Lacordaire, of Liège.
Dr. Herman Burmeister, of Hallé.
Samuel L. Hollingsworth, M.D., of Philadelphia.
Christian Olrick, of Denmark.

Stated Meeting, May 2.

Present, nine members.

Dr. Dunglison, Vice-President, in the Chair.

Letters were read:—

From Dr. Samuel L. Hollingsworth, dated Philadelphia, April 21, 1856, acknowledging the receipt of notice of his election as a member of this Society: and—

From J. A. Thomas, Assistant Secretary, dated Department of State, Washington, April 19, 1856, announcing a donation for the library.

The following donations were announced:—

FOR THE LIBRARY.

Executive Documents, 2d Session of 33d Congress, 1854–5,			22 vols.
Senate Documents,	„	„	14 vols.
Senate, Miscellaneous,	„	„	3 vols.

Senate Reports, 2d Session of 33d Congress, 1854–5, 1 vol.
Reports of House Committees ,, ,, 1 vol.
House, Miscellaneous, ,, ,, 1 vol.
List of Private Claims, ,, ,, 2 vols.

From the Department of State, Washington.

Report of the Commissioner of Patents, for the year 1851. Part 2. Agriculture. Washington, 1852. 8vo.

Message from the President of the United States to the two Houses of Congress at the commencement of the First Session of the 34th Congress;—with accompanying Documents. Parts I. II. (2 vols.) Washington, 1855. 8vo.—*From the Hon. J. R. Tyson.*

Monthly Notices of the Royal Astronomical Society. Vol. XVI. No. 5. March 14, 1856. London. 8vo.—*From the Society.*

The African Repository. Vol. XXXII. No. 4. April, 1856. Washington. 8vo.—*From the Am. Colonization Society.*

The Astronomical Journal. Vol. IV. No. 20. April 26, 1856. Cambridge. 4to.—*From the Editor.*

The Medical News and Library. Vol. XIV. No. 161. May, 1856. Philadelphia. 8vo.—*From Blanchard & Lea.*

Mr. Trego laid upon the table a specimen of "Colombian Guano," from Monks' Islands, in the Caribbean Sea, near the entrance to the Gulf of Venezuela or Maracaibo. The specimen was presented by Dr. A. S. Piggot, of Baltimore, from whom the following communication has since been received.

In the spring of 1855, there was brought into the port of Baltimore a hard, rocky substance, which was offered for sale under the name of Colombian Guano. At first, there was a great effort made to involve in mystery the whole history of the article, its locality being carefully kept secret. Gradually, however, it became known that it was found on Los Monges, a collection of keys at the entrance of the Gulf of Maracaibo. It has also been found on El Roncador, off the Mosquito coast, on Aves and various other keys of the Caribbean sea. On Los Monges, it forms, as the captains who procured it say, a thin polished crust over the entire surface. Below this crust lies the common Mexican guano. In some instances, however, this same smooth incrustation covers thinly the jutting points of primitive and metamorphic rocks. I have before me a splinter of rock of this kind, crested with an inch-thick deposit of this guano; and I have seen many in which the white crust formed a thin lamina over the surface. Many such

were brought in, in the first cargo, which will account for the large amount of sand in the subjoined analysis. Only the ground guano was thus sent to me, so that the analysis represents the commercial article, not a selected specimen. The actual guano contains only about 0.5 per cent. of siliceous matter.

The unusual quantity of phosphoric acid, contained in this substance, attracted attention, and many analyses were made of the new guano. The habit of calculating the phosphates in these Mexican guanos, as bone earth, or tribasic phosphate of lime, led some chemists into grievous errors. The new material was, in one breath, called a super phosphate of lime, and in another, said to contain from seven to eleven per cent. of *free phosphoric acid*. In common with other chemists of Baltimore, on the first importation of this guano, I made an analysis of it, and found it to contain a large proportion of phosphates, but expressed no opinion as to their composition. At last, however, hearing so much said about the soluble phosphoric acid in this substance, I examined it more carefully, and found but little of this acid soluble in water, and none of it *free*. I obtained the following results:

Phosphoric acid,	41.62
Sulphuric acid,	3.65
Chlorine,	.05
Lime,	33.83
Magnesia,	3.27
Iron,	a trace.
Fluorine,	a trace.
Sand (consisting chiefly of primitive rocks in powder)	5.34
Water (hygrometric),	2.15
Organic matter, salts of ammonia (containing 0.23 of ammonia) and combined water,	8.62
Loss, in which are the alkalies (not estimated)	1.47
	100.00

The proportions of the phosphates vary in different samples. Thus, in one specimen, recently examined, there was a very small proportion of magnesia and 4.23 per cent. of phosphate of iron.

The organic matter was partly soluble in hydrochloric acid, and partly in potash. A cursory examination of it seemed to indicate

that it consisted chiefly of humus and the acids of the crenic group.

From this analysis I thought myself justified in announcing that the lime and magnesia in the compound under consideration are combined with the phosphoric acid so as to form a tribasic salt, in which one atom of water substitutes one atom of alkaline earth, according to the formula 2 MO, HO, PO_5. A subsequent examination and recalculation of my results has convinced me that the announcement was somewhat premature, and that the analysis would not fully bear the construction put upon it. I have, however, never changed the opinion then advanced, as the discrepancies are slight and easily accounted for.

The statement of my views led to further investigation. Among others, Dr. Campbell Morfit examined the substance, and came to a different conclusion from that at which I had arrived. Drs. Higgins and Bickell, Chief and Assistant State Chemists of Maryland, shortly after published a paper in which they agreed with me in the main. Their analysis was more elaborate than mine, and comprised two distinct examinations; one of the white, polished crust, the other of the body of the rock. Without going into minutia, I will simply state that they found the exterior layer to contain phosphates of lime and magnesia, of the formula 3 MO PO_5 while, in the body of the rock, the salts were composed, as I had previously announced. They also ascertained that in the outer layer the sulphuric acid was combined with soda, while in the body of the rock it was united to lime.

A discussion ensued upon the application and effect of sundry articles used as manures, and their influence upon different soils and crops,—in which Dr. Dunglison, Prof. Frazer, Dr. F. Bache and Mr. Trego participated.

Stated Meeting, May 16.

Present, sixteen members.

Prof. Frazer, Vice-President, in the Chair.

Dr. S. L. Hollingsworth, a recently elected member, was introduced and took his seat.